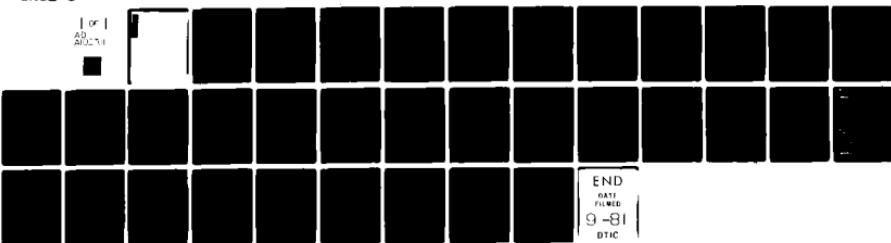


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**PERFORMANCE EVALUATION NARRATIVES OF NAVY WOMEN
AND MEN: AN EXAMINATION FOR BIAS IN PROMOTION**

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women. However, significant interactions between sex and selection status (selected for promotion or not selected) were found in two evaluation categories: (1) Motivation and Personality Traits and (2) Dimensions of Concern to the Navy (awards, oral communication skills, appearance). Women who were not selected had more positive statements related to motivation and personality than did either men or women who were selected, indicating that positive performance in this dimension did not enhance promotion prospects. Men who were not selected had more positive statements on dimensions of concern to the Navy than did men who were selected. ← ↗

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FOREWORD

This research was conducted in response to the requirements outlined in New or Improved Capabilities Required to Integrate Females into the Navy and Facilitate Prospective Assignment of Women to Sea Duty, a research and development plan prepared at the request of the Deputy Under Secretary of the Navy. The findings of the investigation have implications for all selection boards in which both women and men are candidates for advancement. Also, offices of the Deputy Assistant Secretary of Defense (Equal Opportunity), the Chief of Naval Operations (OP-01W), and the Naval Military Personnel Command (Equal Opportunity) (NMPC-61), which have equal opportunity for women as a prime concern, are interested in the results.

The research was conducted under contract with Advanced Research Resources Organization, under Work Unit ZF55-521-021-03.03, Personnel Assimilation and Supervision. The contracting officer's technical representative was Patricia J. Thomas.

The cooperation of NMPC-221 in providing data necessary to conduct the investigation is gratefully acknowledged.

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SUMMARY

Problem

While only behaviors and attributes relevant to the job should enter into individual performance evaluation and promotion, organizational research has demonstrated the influence of extraneous factors. For example, because of the value placed on masculine behavior in a military organization, Navy managers and supervisors, either consciously or unconsciously, may be influenced by an individual's sex. If so, women would be at a disadvantage whenever they compete with men for special assignment or promotion.

Objective

The purpose of this investigation was to determine the effect of gender on the narrative content of personnel performance evaluations and on the decision to promote eligible personnel to chief petty officer.

Approach

Two samples of performance evaluations were used in the study. One sample was drawn from lists of personnel eligible for promotion in 1978; and the other, from lists of personnel eligible in 1979. The first sample was used to construct coding categories for identifying negative and positive statements in the narrative section of the performance evaluations. The second sample was examined to determine whether sex bias affected the selection process. Analyses of variance were performed on the categories to investigate the interaction effects of sex and selection status.

Findings

There was no significant difference in the number of positive statements made about women and men. Within the five evaluation categories, however, significant interactions between sex and selection status were found in two areas--Class II, Motivation and Personality Traits, and Class V, Dimensions of Concern to the Navy. In Class II, it was found that women who were not selected had more positive statements made about them than did either women or men who were selected. In Class V, it was found that men who were not selected had more positive statements made about them than did men who were selected.

Conclusions

Although the qualitative information found in the performance evaluations of women and men being considered for promotion to chief petty officer was very similar, this information was used differentially in making advancement decisions.

Recommendations

1. Personnel responsible for promotion decisions should be made aware of the impact of stereotyping on the promotion process.
2. Selection boards should be provided with highly structured information about candidates.
3. The proportion of female and male candidates being reviewed by a single board member should be controlled to minimize the possibility of stereotyping.

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INTRODUCTION

Problem

While only behaviors and attributes relevant to the job should enter into individual performance evaluation and promotion, organizational research has demonstrated the influence of extraneous factors. For example, because of the value placed on masculine behaviors in a military organization, Navy managers and supervisors, either consciously or unconsciously, may be influenced by an individual's sex. If so, women would be at a disadvantage whenever they competed with men for special assignments or promotion.

Purpose

The overall purpose of this research was to determine whether the narrative content of the Performance Evaluation Report (NAVPERS 1616/18) on a candidate for promotion to chief petty officer is affected by the candidate's sex. Specifically, the purpose was to determine whether (1) the same kinds of descriptors are being used for women and men, and (2) whether these descriptors lead to the same results for women and men who were being considered for promotion by the selection board. Gender differences in either the frequency of the descriptors or the ways in which they related to selection can indicate sex bias. A copy of NAVPERS 1616/18 is provided in Appendix A.

Unlike most studies of evaluation bias, actual performance evaluation forms were used instead of the more typical artificial stimulus (Goldberg, 1968; Deaux & Taynor, 1973). Furthermore, the focus on narratives, combined with a content analysis, is a marked departure from the more common method of comparing numerical ratings.

Background

In the ideal work organization, only characteristics or attributes relevant to clearly specified requirements of the job and/or organization would enter into personnel evaluation and promotion. However, research in recent years has shown that such factors as personal appearance (Carlson, 1967), race (Bowman, 1964; Hamner, Kim, Baird, & Bigoness, 1974), and sex (Nieve & Gutek, 1980; Deaux & Emswiller, 1974) significantly influence personnel in decision making. When these factors are found to be significantly related to selection or promotion, evaluation bias is said to exist. Such bias can prevent individuals from obtaining entry-level positions or from achieving upward mobility and is clearly contrary to the tenets of equal employment opportunity.

Sex bias in employment may be based on cultural stereotypes when personality traits associated with men are valued (Rosen & Jerdee, 1974; Terborg & Ilgen, 1975). Certain personality traits, such as competence, independence, and competitiveness, are considered to be less typical of women than men. Employment decisions are most affected by such stereotypes when management feels the job requires male traits and when there is a small number of women in the personnel pool (Kanter, 1977; Heilman, 1980).

Promotion decisions in the Navy may be susceptible to sex bias because the Navy is stereotypically masculine and the proportion of women is less than seven percent. Royle (1976) examined differences between the progress women and men made in advancement to petty officer pay grades E-4, E-5, and E-6 to determine possible effects of bias. Although, at all pay grades, women's marks for proficiency were higher than those of men, fewer women were promoted to E-5 or E-6. However, since women scored lower on the other factors in the advancement multiple, there was no reason to believe that women were being discriminated against in the numerical ratings of their job performance.

Advancement from E-6 to E-7 (chief petty officer (CPO)) represents a significant step in the career cycle of enlisted personnel because it marks the transition to a supervisory status carrying increased responsibility. Because of the key role CPOs play in the functioning of Navy units, promotion is through a selection board rather than through simple eligibility procedures. This selection process requires that the more subjective information in the narrative sections of performance ratings be interpreted by the selection board. Therefore, while sex is not, per se, a factor in selection, information on behavior, appearance, and personality in the narrative may be presented differently by the rater or may be interpreted differently by the board for male or female candidates, with consequent effects on selection.

Approximately 15,000 enlisted personnel become eligible for promotion to E-7 each year in over 80 ratings (job specialties). To come before the selection board, the candidates must be recommended by their supervisors, receive minimum scores on the annual qualifying examination, and have spent approximately 10 years in the Navy (with approximately 3 years in grade). These components are combined with the candidate's quantitative performance marks over the last 3 years to calculate the "final multiple score." A final multiple cut-off score is set each year to bring approximately 50 percent of the eligibles before the board.

The selection board for E-7 comprises approximately 50 members who have varying expertise. For working purposes, the board is divided into 15 to 18 panels, each reviewing several related ratings during the 4-week session. Each candidate is given a numerical "merit" or "worth" score representing the board's overall assessment of qualifications for promotion. Although this merit score is based on the candidate's whole record, particular emphasis is placed on evaluations for the last 3 to 5 years. The largest component of the merit score is the candidate's quantitative performance as reflected in performance marks on NAVPERS 1616/18 (particularly for leadership and technical proficiency) and a qualitative performance assessment as described in the evaluation narratives (Blocks 2 and 56). The merit score also takes into account test scores, career history (including amount of sea duty or, in the case of women, years spent overseas), potential, awards, and education. Any negative items (e.g., obesity, alcohol abuse) contained in the record are also noted. In general, board members look for evidence of sustained superior performance and information that distinguishes the candidate from others.

After merit scores have been calculated, the candidates are rank-ordered within their ratings. An iterative evaluation of the candidate pool for each rating results in a merit-score cut-off. Candidates scoring above that cut-off are selected. In some instances, the quota for a particular rating will not be filled because too few candidates score above the cut off. Panel decisions are subject to approval by the full selection board.

The evaluation narrative is only one of many variables that enter into the promotion process. Although the effect of the evaluation narrative on the merit score is less apparent and more subtle than that of quantitative data, this effect could confirm, enhance, or downgrade the quantitative assessment of a candidate's performance. Therefore, the possibility of bias in presentation and interpretation of the evaluation narrative bears examination.

METHOD

Samples

Two samples were used in the study.¹ The first sample was obtained by scanning a printout list of personnel in ratings or job specialties including women who were eligible for promotion to E-7 in 1978 and extracting records for all women (as identified by their first names). Male records were sampled by drawing every tenth male name within each rating to obtain an equal number of male and female "selects" (candidates actually promoted) and "nonselects" (candidates not promoted).

The second sample was obtained by drawing records for all women on active duty who were considered for promotion to E-7 in 1979. This amounted to 93 women in 23 ratings. Four of these ratings (i.e., hospital corpsman (HM), Navy counselor (NC), personnelman (PN), and Yeoman (YN)) included a large number of women; and the others, from one to four. Therefore, to prevent the HM, NC, PN, and YN ratings from distorting the sample, the number of selects from them was limited to the modal number of selects and nonselects from the other ratings (i.e., two). This practice reduced the sample to 53 women. Table 1 shows the distribution of women across ratings, the total number of candidates for each rating, and the number of vacancies.

An equal number of select and nonselect men from the same ratings was included in the sample, drawn in the same manner as for Sample 1. One man was later dropped from the musician (MU) rating because his evaluation was unreadable. This meant that one woman in the MU rating also had to be dropped from the sample, resulting in a final sample of 104--52 women and 52 men.² Twenty eight women and men were selects and 24 were nonselects, for a total of 56 selects and 48 nonselects. The average age of the women was 32.5 years, compared to 34.5 years for men. As to race, 88 percent of the women were white, 5 percent were black, and 7 percent were of other races, compared to 79, 5, and 15 percent respectively for men.

¹Active reservists were excluded from these samples.

²Initially, it was thought that the study would include a comparison of women in traditional and nontraditional ratings. However, because of the extremely small number of women in nontraditional jobs and in the overall sample, this factor could not be investigated.

Table 1
Distribution of Women in Sample 2 by Rating

Rating	Total Number of Eligibles	Number of Women Eligibles	Number of Women Selects	Number of Women Nonselects	USN/R Quota
AC (air controlman)	103	2	2	-	55
AG (aerographer's mate)	84	1	1	-	34
AK (aviation storekeeper)	187	3	2	1	77
AT (aviation electronics technician)	428	1	-	1	184
AZ (aviation maintenance administrationman)	179	3	2	1	15
DK (disbursing clerk)	216	2	-	2	53
DP (data processing technician)	132	3	2	1	40
DT (dental technician)	55	2	-	2	37
ET (electronics technician)	626	1	1	-	373
HM (hospital corpsman) ^a	678	4 (24)	2 (12)	2 (12)	353
JO (journalist)	35	1	1	-	20
LN (legalman)	51	2	1	1	24
MA (master-at-arms)	143	1	-	1	61
MU (musician)	63	2	-	2	11
NC (Navy counselor) ^a	166	4 (8)	2 (5)	2 (3)	82
OT (ocean systems technician)	79	1	-	1	27
PH (photographer's mate)	82	4	1	3	39
PN (personnelman) ^a	281	4 (8)	2 (4)	2 (4)	186
RM (radioman)	704	2	1	1	280
SK (storekeeper)	465	5	5	-	286 ^b
TD (trademan)	96	1	1	-	22
YN (yeoman) ^a	505	4 (16)	2 (8)	2 (8)	205
Total	5358	53	28	25	2464

^aBecause of the disproportionately large number of women in the HM, NC, PN, and YN ratings, the number of women samples from these four ratings was equivalent to the modal number of women in the other ratings. The actual number of women in these ratings appears in parentheses.

^bThe quota for this rating was not filled.

Development of Content Coding Categories

Evaluation narratives from the 1978 performance evaluations of sample 1 members were content analyzed. If records included more than one 1978 evaluation, a "regular" evaluation took precedence over a "special" evaluation (i.e., one given at transfer), and the more recent, over the older. Blocks 2 and 56 of NAVPERS 1616/18 contained the material for the content analysis. Block 2, "Evaluation Comments," is intended to "convey sufficient detail and conclusive fact to assure readers that the evaluation is consistent with the assigned (performance) marks" (Bureau of Naval Personnel Manual). Block 56, "Justification Comments," is used to document reasons for exceptionally high or low evaluation marks included in Blocks 3 through 55.

The purpose of this content analysis was to quantify qualitative information so that it could be evaluated objectively. To do this, qualitative material had to be separated into discrete units and the units assigned to categories (Guetzkow, 1950). Although several possible syntactic components (e.g., words, sentence, themes) were considered for analysis, the theme proved to be most appropriate and precise. To ensure consistent identification of themes, a set of rules was formulated for the coders:

1. Each statement of the narratives was to be analyzed to determine the number of attributes of the candidate or his work that were described. Each attribute, whether expressed as a word, a phrase, a subordinate clause, or an entire sentence, was counted as a thematic unit.
2. If a statement contained more than one thematic unit, each unit was counted, except for repeated themes or amplification of preceding statements.
3. Supportive data or evidence for an assertion did not constitute a thematic unit.
4. Statements that described a candidate's work or expected performance did not constitute a theme, although attributes or evaluative remarks in connection with that work did (i.e., statements describing what the candidate did were ignored, but those describing how the work was done (e.g., accurately, promptly) were counted.
5. In statements describing the impact of an attribute (e.g., diligence) on other performance features (e.g., worker morale), both attribute and impact statements counted as thematic units. For example, the statement, "The candidate's pleasant personality positively affected the morale of the unit," included two thematic units--"pleasant" and "impact of personality on morale."

A system of enumeration was developed to establish the unit of analysis. The frequency with which categories appeared in each narrative was tabulated rather than merely tabulating the presence or absence of a category. Based on examination of the narrative in the first sample, it was felt that the frequency of category use was a more sensitive measure of the differences between groups. The subject-matter categories were constructed from the performance evaluation narratives in the first sample by three researchers working independently. The categories were gleaned from the descriptors and attributes in the evaluations themselves and were subjected to continuous tests of usefulness by analyzing the content of other narratives. The preliminary coding categories were discussed before being integrated into one scheme. The coding categories were then used repeatedly on practice narratives until it was felt that the categories represented a comprehensive and exhaustive list. Each category was defined as precisely as possible by listing its major properties or characteristics. Where overlap between categories existed, further delineation was made to minimize the possibility that items could be coded in more than one way, thereby confusing the judges and reducing reliability.

The final set of 78 content coding categories appears in Appendix B in a quasi-dictionary format. Each category has a capitalized entry word (or words), followed by a series of equivalent words or word phrases that serve as category definers or amplifiers. In addition, each category is assigned a numerical identifying code. Although the entry words are generally in adjectival form, they also encompass other forms of the word. For example, although the entry word for category 101 is "intelligent," references in the narrative to the candidate's "intelligence" or "use of logic" would be included.

The categories in Appendix B are subsumed under five broader classes of variables: I. Competency and Work Performance, II. Motivation and Personality, III. Leadership and Supervision, IV. Relationship with Supervisors, and V. Dimensions of Concern to the Navy.³ Each class of variables has its own particular referent. For Class I, the referent is the candidate's own cognitive ability, skills, or work; for Class II, the candidate (for motivation variables) and the candidate's peers (for the personality variables); for Class III, the candidate's subordinates; for Class IV, the candidate's superiors; and for Class V, again, the candidate. In coding the evaluation narratives, identification of the proper referent from the context is often critical to the correct assignment of a category code. For example, if the narrative states that the candidate is "tactful in dealing with others," the proper category would be 217 if the referent is a peer, or 303 if the referent is a supervisor.

The first three classes of variables contain "impact" variables in addition to descriptor variables (see Appendix B, categories 122, 123, 225, 226, 310, 311, and 312). These variables are used whenever an outcome or effect is attributed to some aspect of the individual's work, motivation and personality, or leadership. The impact may be either affective (impact on morale or unit atmosphere) or objective (impact on work accomplishment). Impact variable 312 is used to measure the effect of the candidate's leadership on some larger system (rather than on the candidate's own work unit). This variable is illustrated in the statement, "The candidate's leadership ability was instrumental in the success of the command in accomplishing its objectives."

Coding Procedure

Evaluation narratives from 1979 performance evaluations of sample 2 members were analyzed to determine whether sex bias affected the selection process. To the extent possible, the content analysis was restricted to the manifest content of the narrative as opposed to the latent content. In cases where the terms used in the narrative did not permit direct classification according to the guidelines, inference was permitted.

Two judges, both actively involved in the construction of the content categories, independently analyzed the evaluation narratives. The identification and categorization of units proceeded concurrently. As statements were unitized, each component theme was assigned a category number. Judges recorded the appropriate category code numbers on a data sheet, creating an individual profile for each candidate. Since all categories were defined in terms of positive qualities (with the exception of 511), all categorized units were positive instances of these categories, unless otherwise noted. If negative themes were identified, they were recorded on the profile as though they had been positive, but a negative sign was placed next to the category number (e.g., if the narrative

³Class V variables are items that contribute to or supplement the overall image or qualifications of the candidate and are not concerned with work performance or personality. Statements about some of these items are required on the performance evaluation.

stated that the candidate was "not reliable in the submission of his work," that coding unit would be assigned to category 108 (Reliable) with a negative sign following it). Indications that the candidate was improving on a particular trait were considered to be positive statements, and indications of declining performance were interpreted as negative. Statements that referred to some aspect of the candidate or his work as "adequate" or "average" were judged to be negative.

Data Analysis

Four steps were followed in analyzing the data.

1. Two measures of interrater reliability were computed--unitizing and categorization reliability. Unitizing reliability was developed to measure the consistency with which the boundaries of coding units were identified without regard to categorization, and categorization reliability, to measure the degree to which the units were similarly categorized.
2. Negative statements were removed from the data base, since they constituted only 35 of the total 3,079 coded statements.
3. Several one-way analyses of variance (ANOVAs) were conducted to determine whether the total number of positive statements per subject was different for selected and nonselected groups or for women and men.
4. Several 2×2 ANOVAs were conducted to determine whether the number of positive statements within each class was different for (1) selected and nonselected groups, (2) women and men, or (3) the groups formed by the interaction of status and sex (i.e., selected women, nonselected women, selected men, and nonselected men). The positive statements from Class IV (Relationship with Supervisor) were eliminated because they were not normally distributed, violating a prerequisite for conducting an ANOVA.

RESULTS

Reliability Measures

Unitizing Reliability

The coding units identified by the two judges were compared individually, and units identified by both judges were counted as "Agreements" (A) in unitization and were left intact for the composite profile. Discrepancies in unitizing for the two judges (e.g., if one judge identified a codable unit while the other did not) were scored as "Disagreements" (D) and were resolved for the composite profile as follows: (1) those units found to be present were left in the composite profile and counted as "Disagreements-Present" (D_p), and (2) those units found to be absent in the narrative were dropped from the composite profile and a tally of "Disagreements-Not Present" (D_{NP}) was kept. The unitizing reliability was computed by the equation

$$r_u = \frac{T - D}{T} = \frac{(A + D_p) - (D_p + D_{NP})}{A + D_p},$$

where

T = The total number of coding units in the composite profile,
 D = The total number of disagreements (both present and not present).

Unitizing reliability was determined to be .786. It should be noted that r_u is a conservative estimate of the percentage of total units that were agreed upon in the composite profile, corrected for the number of units dropped from the composite profile.

Categorization Reliability

An index of the categorization reliability was computed using Scott's (1955) pi. A categorization agreement was scored whenever the two judges assigned a coding unit in the composite profile to the same category. Coding units in the composite profile resulting from "Disagreements-Present," however, were never assigned an "Agreement" for categorization, since only one judge had originally categorized the unit. The index pi is based on the ratio of categorization agreements to the total number of coding units. The ratio is corrected for the number of categories in the category set and the probable frequency with which each is used. Category reliability was computed to be .795. Both the unitizing and categorizing reliabilities in this study reflect a high degree of consistency between the judges.

Differences in Numbers of Positive Statements

Differences Between Subjects

Two separate one-way ANOVAs were conducted using the total number of positive statements on a subject's performance evaluation as the dependent measure and the subject's sex and status (i.e., selected or not selected for advancement) as the independent measures. Results are provided in Table 2.

Table 2

Summary of One-Way Analyses of Variance to Determine Differences in Numbers of Positive Statements

Source of Variation	SS	df	MS	F
Sex				
Between groups	44.46	1	44.46	.507
Within groups	8940.00	102	87.65	
Selection Status				
Between groups	363.46	1	363.46	4.300*
Within groups	8621.00	102	84.52	

*p < .05

Although women received an average of 29.92 positive statements, compared to 28.62 for men, the difference between these means was not statistically significant, as shown by the F for sex in Table 2. The mean number of statements for selected women and men was 31.00 versus 27.25 for nonselected women and men. The significant F shown in Table 2 indicates that individuals promoted to CPO received a greater number of positive statements about their job performance than did those who were not promoted.

Differences Within Classes

For the series of 2 x 2 ANOVAs, the dependent measure was the number of positive statements the subjects received in Classes I, II, III, or V and the independent measures were subject's sex and status.

Comparison by Sex and Status. Table 3, which presents the means for each group within the evaluative classes, shows that, as expected, the selected groups have more positive statements than do the nonselected groups. However, when the groups are dichotomized by sex, only the means in Class I are higher for both selected women and men than for nonselected women and men. As shown in Table 4, Class I was the only class yielding a significant effect for status. None of the classes yielded a significant effect for sex.

Table 3
Mean Number of Positive Statements by Class,
Sex, and Selection Status

Group	Selected	Not Selected	Total
<u>Class I. Competancy and Work Performance</u>			
Women	14.54	12.62	13.65
Men	15.00	11.62	13.44
Total	14.77	12.12	13.55
<u>Class II. Motivation and Personality</u>			
Women	3.68	4.87	4.23
Men	4.57	3.00	3.85
Total	4.12	3.94	4.04
<u>Class III. Leadership and Supervisory</u>			
Women	4.54	5.00	4.75
Men	4.64	3.33	4.04
Total	4.59	4.17	4.39
<u>Class V. Dimensions of Concern to the Navy</u>			
Women	7.64	6.04	6.90
Men	6.50	7.21	6.83
Total	7.07	6.62	6.87

Note. As indicated previously, Class IV positive statements were eliminated because they were not distributed normally.

Table 4
Results of 2 X 2 Analyses of Variance to Determine Differences
Within Evaluative Classes

	Class ^a	Source	df	MS	F
I.	Competency and Work Performance	Sex	1	1.16	0.038
		Status	1	180.54	5.903*
		Interaction	1	13.85	0.453
		Residual	100	--	--
II.	Motivation and Personality	Sex	1	3.85	3.846
		Status	1	0.91	0.909
		Interaction	1	49.50	8.425**
		Residual	100	--	--
III.	Leadership and Supervision	Sex	1	13.16	1.089
		Status	1	4.60	0.382
		Interaction	1	20.33	1.682
		Residual	100	--	--
V.	Dimensions of Concern to the Navy	Sex	1	0.15	0.028
		Status	1	5.15	0.936
		Interaction	1	34.47	6.262*
		Residual	100	--	--

^aAs indicated previously, Class IV positive statements were eliminated because they were not distributed normally.

*p < .05.

**p < .01.

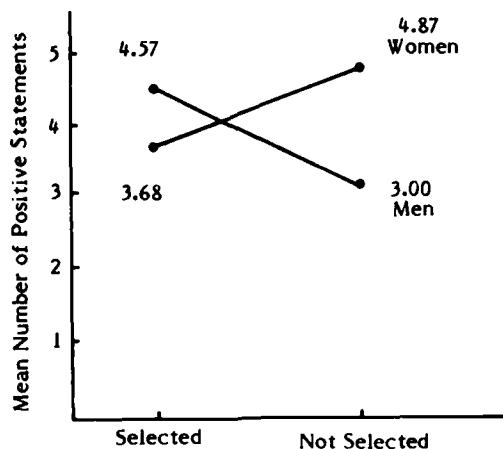
A list of the categories appearing most frequently on the performance evaluations (those assigned at least 30 coding units for either men or women) is presented in Table 5. The Pearson correlation for these categorized coding units for the two sexes was .88. This high correlation suggests that the content as well as the number of statements made about women and men are very similar.

Table 5
Categories Appearing Most Frequently in the Performance Narratives

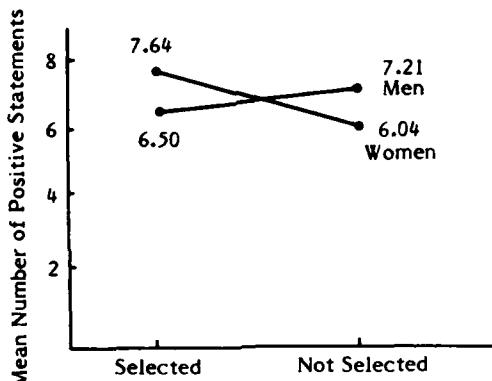
Code	Category	Men	Women
103	Technically Proficient	68	63
106	Diligent	56	63
108	Reliable	37	32
109	Effective	36	35
111	Cooperative	42	47
117	Attentive to Detail	36	29
123	Work Impact on Unit (Work Accomplishment)	71	66
124	Global Work Performance	111	117
201	Global Motivation	39	31
310	Leadership Impact on Unit (Affective)	30	37
311	Leadership Impact on Unit (Work Accomplishment)	32	44
313	Global Supervisory	38	53
501	Appearance	50	54
502	Conduct	45	34
503	Oral Communication Ability	46	49
504	Written Communication Ability	46	48
507	Concern with Navy Equal Opportunity	49	48
508	Honors	25	34
510	Recommendation	61	59

Note. $r = .88$

Interaction of Sex and Status. Given that women and men receive the same number and type of evaluative statements from their supervisors, the relevant question is whether the influence of these evaluations on the selection process is the same for both sexes. Table 4 shows that there is a significant interaction between sex and status in Classes II and IV, indicating that statements in these classes do not have an equivalent outcome for each sex. The manner in which information from these classes was used in the selection process can be better understood by examining Figure 1, which presents graphs of the interactions. As shown, the number of positive statements in Class II differentiated between selected and nonselected men, but not between corresponding groups of women. In fact, nonselected women actually had more positive statements in this area than did women or men who were selected (4.87 vs. 4.57 and 3.68). This trend was also evident for positive statements in Class III, but the differences were not significant. Class V shows a reversal of this pattern. Information in this class differentiated between selected and nonselected women, but not men.



a. Class II. Motivation and Personality



b. Class V. Dimensions of concern to the Navy

Figure 1. Interaction of sex and status for Class II and Class V positive statements.

DISCUSSION

All opportunities for promotion to CPO depend on the rank order of candidates' overall merit scores. The ranking of each score is, in turn, crucially affected by the assessment and use of information on the candidates by the selection board. Bias in evaluation exists when the same type of information is used inequitably for different classes of people, although board members may not be aware of their bias.

The qualitative information found in the performance evaluations of women and men being considered for advancement to CPO was very similar. As would be expected, promoted personnel received a greater number of positive evaluative statements than did those who were not promoted. When the statements were categorized, however, and analyzed for sex and selection-status effects, evidence of possible bias was found. Only Class I, Competency and Work Performance, seemed to be interpreted in the same manner for women and men. For the other three classes, information appears to have enhanced the chances for promotion of one sex and decreased the opportunities of the other (this

finding did not achieve significance for Class III, however). To better understand the differential use of information in the two classes where significance was found, the content of the statements and relevant past research must be examined.

Class II--Motivation and Personality Variables

Stereotypes of male and female personality and behavior can impact on the perception and use of the available information when evaluating an individual. Descriptions of performances of men that fit the masculine stereotype are usually accepted by evaluators as indicative of a man's ability or skill. Performances of women that deviate from the feminine stereotype are usually attributed to luck or unusual effort rather than to a fixed personal characteristic, and managers tend to be interested in stable characteristics when making personnel decisions (Deaux & Emswiller, 1974; Heilman & Guzzo, 1978; Terborg & Ilgen, 1975). The less concrete and more ambiguous the available information, the more likely that an evaluator will be influenced by sex-role stereotypes (Rosen & Jerdee, 1974; Shaw, 1972).

The statements within Class II address qualities perceived in a candidate by a superior. These qualities are not as concrete or measureable as those behaviors rated in Class I, Competency and Work Performance, a class for which no differential treatment by sex was found. Moreover, certain of the traits categorized as measuring motivation and personality are considered to be more representative of men than women (i.e., ambitious, assertive, accepting challenge). When such ambiguous cross-sex-appropriate statements are applied to women, the tendency is to consider them atypical. This discounting tendency may explain why nonselected women had significantly more positive statements made about their personality traits than did either selected women or selected men.

Class V--Dimensions of Concern to the Navy

Generally, concrete measures of ability are less susceptible to sex-role biases. Further, women achieving an award or an honor in a masculine endeavor have been rated by evaluators as more competent than males in similar situations (Deaux & Taynor, 1973; Pheterson, Kiesler, & Goldberg, 1971; Muchinsky & Harris, 1977). Some researchers have speculated that this over-rating of women occurs because evaluators assume women have internal and external constraints limiting their achievement ability. Therefore, to actually achieve an award in a traditionally masculine field, a woman must have exceptional ability (Terborg & Ilgen, 1975).

Class V statements include those on concrete, salient elements such as appearance, oral communication ability, honors, awards, and other external recognition of work and work experience (see Appendix B). Most decorations and commendations result from service with an operational unit, usually under conditions of armed conflict. Unit awards, such as the Meritorious Unit Commendation, are awarded to each person in the unit and are relatively numerous. Personal decorations are a result of individual achievements or heroism. Because of the historical restrictions on women's assignments, only a few of those who are eligible for promotion to CPO would have ever served with an operational unit. Thus, when a woman's record states that she has been awarded a unit commendation or a personal decoration, this information is interpreted as a sign of unusual and commendable behavior.

Appearance, communication skills, and honors are concrete aspects of job performance. Consequently, judges who were unsure about how to evaluate women's performance in the more ambiguous areas may have relied heavily on statements of superiority

in this class. For male candidates, however, statements about competency, motivation, and leadership skills could have been interpreted as being more indicative of potential as a CPO.

CONCLUSIONS

Two classes of information in the narrative evaluations of women and men were found to be susceptible to differential interpretation by those responsible for promoting personnel to CPO. One class involved statements about motivation and personality--statements that improved the promotional position of men, but not women. The other class consisted of information about communication skills, appearance, and recognition. These statements improved the promotion position of women, but not men. Both of these classes provide supplemental information to statements concerning work performance and competency, an area in which no potential bias was found. Information that is not clearly a criterion for and/or a measure of job performance encourages evaluators to fall back on preconceived attitudes. Such a practice is not only unfair to the individuals involved, but also to the organization that is deprived of a decision based on objective treatment of data.

If promotional biases are ignored, they will persist and will impact the selection process. This impact may have the effect of preventing a number of qualified women from being promoted, resulting in a loss to the Navy of competent CPOs and a setback to the Navy's equal opportunity endeavors.

RECOMMENDATIONS

1. Personnel responsible for promotion decisions should be trained in appropriate and accurate use of all available information. This training would include sensitizing them to the impact that sex-role stereotypes can have in biasing decisions and evaluations.
2. Highly structured and perhaps verifiable information should be provided to those making promotion decisions. This type of information is less susceptible to sex-role biases.
3. The percentages of women and men in each group being reviewed by an individual board member should be controlled. The tendency to use sex-related stereotyped traits to evaluate individuals increases when one sex is in the minority (Heilman, 1980). Groups composed of all women, all men, and/or an equal number of women and men would be least likely to elicit sex biases from reviewers.

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APPENDIX A

SAMPLE EVALUATION FORM
(NAVPER 1616/18)

← ALIGN FIRST CHARACTER IN THIS BOX

TYPE THE WORD "ALIGN" TO REGISTER HERE

→ ALIGN

BUPERS USE ONLY

ES-6

BUPERS USE ONLY

STATUS

ACTIVE

INACTIVE

35

PERFORMANCE EVALUATION REPORT

1. DESCRIPTION OF RATEE'S PRIMARY AND SIGNIFICANT COLLATERAL DUTIES (INCLUDE DEPLOYMENTS AND EDUCATIONAL ACHIEVEMENTS)

2. EVALUATION COMMENTS (INCLUDE VERBAL EXPRESSION COMMENTS ON ABILITY TO PROVIDE SERVICES TO SHIPMATES AND FURTHER DESCRIBE RATEE'S PERFORMANCE AND QUALIFICATIONS)

← ALIGN FIRST CHARACTER IN THIS BOX

TYPE THE WORD "ALIGN" TO REGISTER HERE

→ ALIGN

EVALUATION MARKS

3. DIRECT	4. COUNSEL	5. IND PROD	6. FLEX	7. RELIAB	8. CONDUCT	9. PERS APP	10. N/A
11. N/A	12. COOP	13. EQ OP ACH	14. ICULT REL	15. N/A	16. N/A	17. OV PERFOR	18.
19.	20.	21.	22.	23.	24.	25.	26.
27.	28. HEIGHT	29. WEIGHT	30. BEHAV	31. N/A	32. MAAG / M	33. RECRUIT	34. CAR COUN
35. REC C.C.	36. STAFF	37. INST	38. IND DTY	39. OTH	SPECIAL CODES	41. N/A	44. UIC
42. INNOVATIVE CONTRIBUTIONS	43. SHIP OR STATION						
45. DATE REP THIS COMM	46. OCCASION FOR REPORT			PERIOD OF REPORT		48. THRU	
	REGULAR	TRANSFER	OTH-ER	FROM:			

49. REPORTING SENIOR'S SSN

50. DATE SIGNED

51. SIGNATURE OF REPORTING SENIOR

52. NAME (LAST, FIRST, MIDDLE NAME OR INITIAL)

53. RATEE'S SSN

54. RATE ABBR

55. BR CL

PAY GRADES 5-6	
MARK	CODE
UNSAT-SERIOUS	UNS
UNSAT-MINOR	UNM
GOOD (LOWER)	GOL
GOOD (UPPER)	GOU
TYPICALLY EFFECTIVE (LOWER)	EEI
TYPICALLY EFFECTIVE (UPPER)	EEU
SUPERIOR TO MOST (LOWER)	SOU
SUPERIOR TO MOST (UPPER)	SUU
STANDS OUT FROM VIRTUALLY ALL OTHERS (LOWER)	STL
STANDS OUT FROM VIRTUALLY ALL OTHERS (UPPER)	STU
EXEMPLARY (CONDUCT ONLY)	XEM
IMPRESSIVE (APPEARANCE ONLY)	IMP
NOT OBSERVED	NOB

56. JUSTIFICATION COMMENTS (USE ONLY TO DOCUMENT MARKS IN THE EVALUATION SECTION)

57. NAME AND RANK OF REPORTING SENIOR

58.

I HAVE SIGHTED
THIS REPORT

RATEE'S SIGNATURE

APPENDIX B
CONTENT CODING CATEGORIES

CONTENT CODING CATEGORIES

Competency and Work Performance Variables: [100]

- INTELLIGENT, analytical, logical; ability to problem-solve; ability to learn (grasp new things easily); aptitude. [101]
- PERCEPTIVE; judgment; insight; sense of appropriateness; sense of perspective; sense of priorities; awareness; foresight; common sense; ability to anticipate needs, weigh alternatives, make good decisions. [102]
- TECHNICALLY PROFICIENT; knowledgeable; skilled; informed (keeps abreast of changes); expertise; resource person. [103]
- INDEPENDENT, self-sufficient (not needing supervision); self-assured (in work sense). [104]
- ORGANIZED, systematic, plans ahead (for self as opposed to others). [105]
- DILIGENT, dedicated, devoted to job (duty), hardworking, industrious, tireless, works overtime; drive; effort (work-related); strives to do best. [106]
- PROFESSIONAL; high standards; pride in work; attitude of professionalism; commitment to professionalism. [107]
- RELIABLE, responsible, dependable, steady. [108]
- EFFECTIVE (with regard to quantity and quality of work); sees that work gets done; takes necessary action(s); implements; efficient; productive (product-, mission-, or output-oriented); high achiever (with respect to work). [109]
- IMPROVEMENT-ORIENTED; alert for improvements in output or procedures; creative, original, resourceful, imaginative; generates new ideas. [110]
- COOPERATIVE; works well with others; generates rapport; teamwork; assists (in work situation), helpful; interpersonal work-related proficiency; persuasive. [111]
- FLEXIBLE; ability to function in the face of changes, problems, pressures (not including task changes or increase in number of tasks); adaptability; "keeping-your-cool" ability; stress tolerance; ability to make the best of any situation. [112]

- VERSATILE; juggling-of-tasks ability; capable of handling multiple tasks at the same time, task multiplicity, multiple tracking; diversity; "changing gears" ability, ease of going from one task to another. [113]
- ADMINISTRATIVELY PROFICIENT (develops procedures, plans and organizes, etc.); managerial or supervisory ability (gives direction, coordinates efforts of others, etc.) (Focus is on tasks themselves--paperwork, procedures, etc.--rather than on people). [114]
- USES CAPABILITIES; makes most of personal skills; uses training to best advantage; skillfully develops own resources; applies knowledge. [115]
- TIMELY, prompt, fast, speedy; completes work on schedule. [116]
- ATTENTIVE TO DETAIL, accurate, meticulous; thorough, complete; careful; prepared. [117]
- NEAT, orderly. [118]
- ABLE TO WORK UNDER LESS THAN IDEAL CIRCUMSTANCES (e.g., due to resource shortage, increased workload, or other external factor); deploys marginal resources (e.g., equipment, personnel); able to work in unusually difficult, demanding, or sensitive situations. [119]
- ABLE TO SERVE IN HIGHER CAPACITY when needed (e.g., take over for supervisor) (Has actually functioned at higher level rather than just having the qualifications to do so). [120]
- ASKS FOR HELP or suggestions when needed. [121]
- WORK IMPACT ON UNIT (AFFECTIVE); instrumentality of work in terms of impact on others or work atmosphere. Example: "(Work) has had a positive effect on the unit..." [122]
- WORK IMPACT ON UNIT (WORK ACCOMPLISHMENT OF OTHERS); general instrumentality of work. Examples: "(Work) is instrumental in..."; "(Work) has made him/her a key person in..."; "(Work) has been invaluable in accomplishing command objectives..." [123]

GLOBAL WORK PERFORMANCE (general statements of work performance not classifiable under any of the preceding work variables). Examples: excellent or outstanding performer (or performance); praiseworthy; asset to Navy; capable (in general); potential; qualified to handle more responsibility.

[124]

Motivation and Personality Variables: [200]

GLOBAL MOTIVATION: self-motivated; self-starter; seeks out work; volunteers (e.g., sea duty); assumes responsibility on own initiative (undertakes work).

[201]

ACCEPTING OF CHALLENGE; willingness to undertake assignments, dig in and get involved; "can do" attitude (accepts work and responsibility).

[202]

DETERMINED; stick-to-itiveness; commitment; persistent, tenacious; doesn't give up (as distinguished from diligent, hardworking, etc. [106]).

[203]

WILLINGNESS TO LEARN; interest and desire in learning.

[204]

AMBITIOUS; career-minded; aspiring; aggressive (in career sense); competitive.

[205]

ENTHUSIASTIC, dynamic, energetic, vigorous, active, interested.

[206]

FIRM, decisive, positive.

[207]

ASSERTIVE, outspoken, straightforward, frank, candid, forthright.

[208]

FLEXIBLE, adaptable, adjusted (non-work).

[209]

QUIET, unassuming, low-key, reserved.

[210]

LIKEABLE, affable, congenial, pleasant, pleasing, agreeable, warm, cheerful, favorably regarded by peers; helpful (to peers), responsive, available (passive dimension--as seen by others).

[211]

FRIENDLY; ability to relate (in general); people-oriented, sociable, outgoing (active dimension--seeks out and enjoys being with people).

[212]

SELF-CONFIDENT; pride in self; high self-esteem.	[213]
HUMOROUS; witty.	[214]
EASYGOING, non-frantic, relaxed calm.	[215]
LOYAL, trustworthy.	[216]
COURTEOUS, considerate, tactful, polite, respectful.	[217]
PATIENT, tolerant.	[218]
CONCERNED, interested, understanding, compassionate, sensitive, kind, caring (as regards peers).	[219]
HONEST, sincere, truthful.	[220]
INTEGRITY, character, morality, ethics, maturity, stability	[221]
POSITIVE ATTITUDE; favorable attitude toward Navy; service-oriented.	[222]
INTELLECTUAL SELF-IMPROVEMENT: efforts to improve intellectually or technically (e.g., courses, community work).	[223]
NON-INTELLECTUAL SELF-IMPROVEMENT: efforts to improve in personality, attitude, or body fitness (e.g., weight loss).	[224]
IMPACT OF PERSONALITY ON MORALE, unit atmosphere, etc.	[225]
IMPACT OF PERSONALITY ON WORK ACCOMPLISHMENT of unit.	[226]
GLOBAL PERSONALITY.	[227]

Leadership and Supervisory Variables: [300]

DIRECTIVE LEADERSHIP STYLE (GOOD): firm, positive, "no nonsense", businesslike; ensures compliance.	[301]
*DIRECTIVE LEADERSHIP STYLE (POOR): leaves little discretion to subordinates; leads in non-participatory, unilateral manner, prefers close supervision.	[302]

* This variable, derived from an analysis of the first sample, did not emerge in the narratives of the second sample.

- SUPPORTIVE LEADERSHIP STYLE: encouraging, concerned, tuned in, personal, warm, tactful; uses individualized approach. [303]
- SETS GOALS and standards. [304]
- GUIDES, teaches, trains, imparts information, explains, provides constructive criticism (cognitive/objective tone). [305]
- COUNSEL: interested in professional development of subordinates; encourages self-development (personal as well as professional counseling). [306]
- FAIR, impartial, unprejudiced, consistent. [307]
- OPEN to new ideas or differing points of view. [308]
- RESPECTED by peers and subordinates; admired; generates respect; sought after for advice. [309]
- LEADERSHIP IMPACT ON UNIT (AFFECTIVE); inspires others, has positive influence on others, builds morale, promotes good will, promotes harmonious relationships, resolves conflict, generates cooperation; sets example for ...; is model for ...; charismatic. [310]
- LEADERSHIP IMPACT ON UNIT (WORK ACCOMPLISHMENT): sees that work gets done; task facilitation, unit preparedness, readiness; ability to motivate others (to do work), catalyst, driving force; influence of leadership on work accomplishment. [311]
- *LEADERSHIP IMPACT ON LARGER SYSTEM: Example: "(Leadership) contributes to the success of (whole Navy, entire military post, etc.)" [312]
- GLOBAL SUPERVISORY, managerial, or leadership excellence. [313]

Relationship with Superiors: [400]

- AWARE OF NAVY HIERARCHY; knows how to interact with superiors; diplomatic, tactful, respectful; politically-wise (with superiors). [401]

* This variable, derived from an analysis of the first sample, did not emerge in the narratives of the second sample.

ACCEPTING OF DIRECTION and advice; takes orders; conforming; dutiful; cooperative. [402]

RESPECTED, highly regarded, valued, recognized, praised, held in high esteem by superiors. [403]

Dimensions of Concern to the Navy. [500]

APPEARANCE, dress, personal grooming. [501]

CONDUCT, behavior, bearing, carriage. [502]

ORAL COMMUNICATION ABILITY. [503]

WRITTEN COMMUNICATION ABILITY. [504]

COMMUNITY AND EXTRACURRICULAR ACTIVITIES (e.g., volunteer activities, sports activities, etc.) [505]

INTERCULTURAL RELATIONS (e.g., promotes atmosphere of mutual respect; capacity to interact with people of other cultures; diplomatic). [506]

CONCERN WITH NAVY EQUAL OPPORTUNITY (EO)goals. [507]

HONORS, awards, commendations, special assignments, other external recognition for work performed (not including letters of appreciation); nominated for ...; selected for.... (Awards presented to unit which are ascribed to work of individual are also included here). [508]

EXPERIENCE (e.g., "has had wide experience in...") [509]

RECOMMENDATION for promotion; qualified for greater responsibility. [510]

PROBLEMS (e.g., medical, drug or alcohol abuse, weight, discipline, financial, family). [511]

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